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PATENT
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In re Patent of: **Harald Sontheimer *et al.***

CPA of Application No. **09/296,031**

Examiner: **Shin-Lin Chen**

Filed: **April 15, 2002**

Group Art Unit: **1633**

For: **Diagnosis and Treatment of Neuroectodermal Tumors**

DECLARATION UNDER 37 C.F.R. 1.132

I, Matthew A. Gonda do hereby make the following declaration:

1. I have served as President and Chief Executive Officer, and as a member of the Board of Directors of Transmolecular Inc. since 1999. I have more than twenty-eight years of research and development experience in biomedical and biotechnology industries. From 1997 to 1998, I was President and Chief Executive Officer of Genovo, Inc. and from 1996 to 1997, I was Vice President, Discovery Research. From 1972 to 1996, I was at the National Cancer Institute in the Frederick Cancer Research and Development Center, concurrently holding senior level management and scientific positions with SAIC Scientific Applications International Corporation, PRI/DynCorp Inc., Program Resources Inc. and Litton Bionetics Inc. I have served as a consultant to the biotechnology and pharmaceutical industries in the area of gene therapy, infectious diseases, and cancer, served on industry and company boards, published over 135 scientific articles and am an inventor on a number of issued patents and patent applications. I earned a B.S. in biology from the University of Virginia, a M.S. in biology from George Mason University, and a Ph.D. in molecular virology from the Johns Hopkins University.

2. I have reviewed the Office Action dated March 13, 2001 and the Advisory Office Action dated July 6, 2001, and in particular the Examiner's questions concerning the binding properties of chlorotoxin to non-metastatic melanoma tissue. I hereby state that chlorotoxin binds to both primary (non-metatstatic) and metastatic melanoma tissue.

3. Samples of human metastatic melanoma, primary melanoma and normal skin were obtained from the Eastern and Southern Divisions of the Cooperative Human Tissue Network and

were kindly provided by the brain tissue tumor bank in London (England), Ontario (Canada) and the University of Alabamba Brain Bank (U.S.). The diagnosis of all biopsy tissue samples was confirmed by a pathologist and supplied with the tissues. Tissues were labeled with biotinylated chlorotoxin or normal saline (as a staining reagent control) and specific binding of the molecule was detected using a stepavidin peroxidase staining reagent.

4. Positive reactivity was identified by the production of a brown color in the samples. The results of this study indicated that only metastatic melanoma and primary melanoma cells in biopsied tissues were labeled with chlorotoxin; normal skin was negative (see Appendix A; Table 1, Figure 1). The staining pattern of metastatic and primary melanoma cells was consistent and typically was distributed over cytoplasmic and in perinuclear regions (Figure 1, panels A in malignant melanoma and primary melanoma only). No observable differences in the level of staining between metastatic and primary melanoma was detected. All cases and grades of melanoma studied to date have been positive for staining (Table 1, n=14).

5. I further declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true, and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

4/8/02
Date

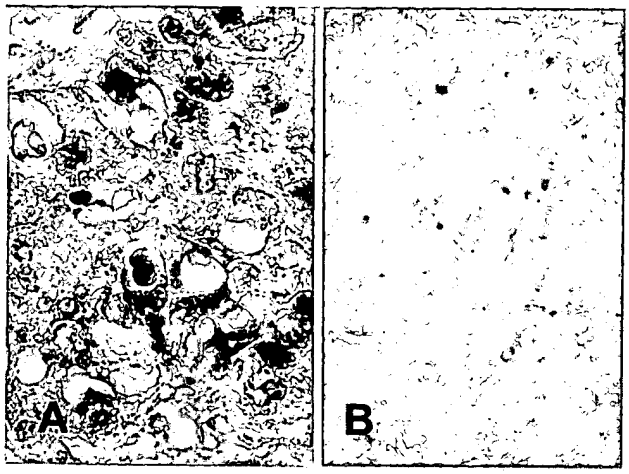
Matthew A. Gonda
Matthew A. Gonda, Ph.D.

Table 1. **Summary of Human Melanoma and Normal Skin Samples Stained with Chlorotoxoin**

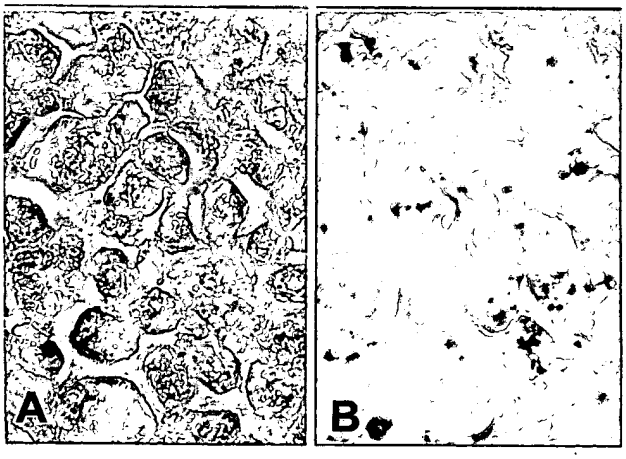
Tissue Type	Cases	Positive for Chlorotoxin Staining
Metastatic Melanoma	11	11/11
Primary Melanoma	3	3/3
Skin	6	0/6

Figure 1. Examples of Human Melanoma and Normal Skin Samples Stained with Chlorotoxin

Malignant Melanoma



Primary Melanoma



Normal Skin

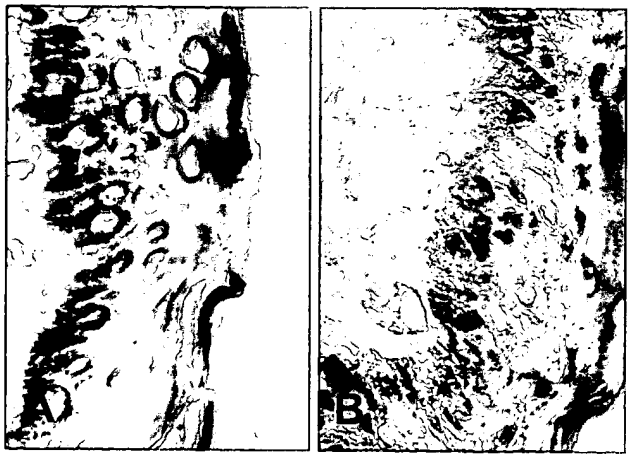


Figure Legend: Human malignant melanoma, primary melanoma and normal skin biopsies labeled with or without biotinylated chlorotoxin. Samples in panels (A) were labeled with biotinylated chlorotoxin. Samples in panels (B) were incubated with buffered saline as a mock-labeling negative control. After primary incubation with biotinylated chlorotoxin or buffered saline (the peroxidase reagent staining control), the tissues were incubated with peroxidase-labeled stepavidin followed by peroxidase substrate to produce the brown color in positive staining samples. All samples in panels A and B were counterstained with methyl green for contrast in photography.

MATTHEW A. GONDA, PH.D.

WORK ADDRESS:

TransMolecular, Inc.
3800 Colonnade Parkway - Suite 240
Birmingham, AL 35223
Phone:205-972-0770
Fax: 205-972-0780
email: gonda@transmolecular.com

HOME ADDRESS:

920 Lake Colony Run
Vestavia Hills, AL 35242
Phone: 205-970-0606
Fax: 205-970-0014
email: matgonda1@aol.com

PROFILE:

Scientific and business executive with more than 28 years of management and R&D experience in biotechnology and biomedical services sectors. Demonstrated expertise in general operations and R&D program management, strategic business planning, raising capital, start-up operations, and business development. Senior manager with vision, integrity, and strong interpersonal, communication, motivation, scientific, and leadership skills. Built cohesive teams of individuals with diverse backgrounds and responsibilities to meet company objectives. Scientific consultant to pharmaceutical and biotechnology companies, government contractors, universities, and law firms.

EXPERIENCE:

TRANSMOLECULAR, INC., BIRMINGHAM, AL

An early stage neuroscience biotechnology company engaged in the research, development, and commercialization of products for the treatment and diagnosis of diseases of the central nervous system using newly discovered ion channels selectively expressed in nerve tissues.

1999 – present **PRESIDENT, CEO & DIRECTOR**

Responsible for general management and operations, financing, R&D, licensing, business development and marketing activities.

GENOVO, INC., SHARON HILL, PA

An early stage biotechnology company involved in the development of gene-based therapeutic products for the treatment of human diseases.

1997 – 1998 **PRESIDENT & CEO**

Appointed acting President & CEO. Responsible for general management, operations, financing, licensing, and R&D.

1996 – 1997 **VICE PRESIDENT, DISCOVERY RESEARCH**

Senior executive and corporate officer (Secretary and Treasurer) reporting directly to CEO/Chairman. Responsible for general management of company, P&L, R&D program implementation and oversight, financing, intellectual property and strategy, business development and marketing activities, licensing, and start-up operations.

MATTHEW A. GONDA, PH.D.

EXPERIENCE (cont.)

FREDERICK CANCER RESEARCH AND DEVELOPMENT CENTER (FCRDC), FREDERICK, MD

The FCRDC is a federally funded R&D facility operated under the authority of the NCI by private industry since 1972 and is recognized as a premier biomedical research center primarily engaged in understanding the basic biology of and discovering new treatments for cancer and AIDS.

SAIC FREDERICK - Operations and Technical Support Contractor of FCRDC from 1995 - present.

1995 – 1996 **PRINCIPAL SCIENTIST AND HEAD, LABORATORY OF CELL AND MOLECULAR STRUCTURE AND RECOMBINANT DNA LABORATORY**

General management of business unit operations, P&L responsibilities, oversight of R&D programs, and marketing of research proposals to generate funding for facility, as with previous contractor, PRI/DynCorp. Principal investigator for basic research program in virology. Worked with SAIC Major Programs Group in business development and marketing outside the FCRDC to expand and diversify their biomedical research and healthcare contract business. Used technical, management, and marketing experience to evaluate $35-50 M+ contract opportunities related to biomedical research operations and to write business proposals.

PRI/DynCorp, Inc. - Operations and Technical Support contractor of FCRDC from 1987 – 1995.

1987 – 1995 **PRINCIPAL SCIENTIST AND HEAD, LABORATORY OF CELL AND MOLECULAR STRUCTURE AND RECOMBINANT DNA LABORATORY**

General management of business unit operations including financials and infrastructure development, P&L, oversight of R&D programs, development of new business opportunities, accessing new technologies, and marketing research proposals to generate funding for facility. Principal investigator for large basic research program in virology and AIDS.

- Administratively responsible for Laboratory of Cell and Molecular Structure which provided cutting-edge research/products related to gene discovery, gene therapy, vector development, vaccines, immnotoxins, molecular diagnostics and engineering of cells and animal models for cancer, AIDS, and other infectious, acquired, or inherited diseases.
- Simultaneously responsible for Recombinant DNA Laboratory which provided recombinant DNA products and services, e.g, nucleic acid synthesis, high-throughput DNA sequencing, genotyping, cytogenetics, positional cloning, recombinant protein expression, monoclonal antibody development and production, molecular and immunologic diagnostic assay development, etc.
- Principal investigator for an internationally recognized investigator-initiated basic research program focused on the comparative molecular genetics, mechanisms of replication, and assembly, and pathogenesis of lentiviruses, including HIV.
- Participated in the development and writing of a successful $400 M + business proposal to operate the FCRDC for 7.5 years (1987 – 1995).
- Grew R&D business from $85 K/yr and staff of 3 in 1984 to $3.2 M and a staff of 40+ in 1995.

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EXPERIENCE (cont.)

PROGRAM RESOURCES, INC. - Operations and Technical Support contractor of FCRDC from 1982 – 1987. Program Resources, Inc. was acquired by DynCorp in 1987.

1984 – 1987 **SENIOR SCIENTIST AND HEAD, LABORATORY OF CELL AND MOLECULAR STRUCTURE**

Established a new R&D unit, Laboratory of Cell and Molecular Structure, and was responsible for its general management, growth, and development into an integrated contemporary molecular biology laboratory, as described above, and conception and funding of an investigator -initiated basic virology research program focused on lentiviruses and AIDS.

1982 – 1984 **SCIENTIST II AND HEAD, ELECTRON MICROSCOPY LABORATORY**

Managed Electron Microscopy Laboratory and team of 7. Provided collaborative research and technical services in virology, cell biology, electron microscopy, and immunodiagnostics to investigators studying cancer and AIDS causing animal and human retroviruses and cancer cell biology.

- Participated in the NIH NCI-AIDS task force (1983) to find the cause of AIDS.
- First to recognize and demonstrate the ancestral relationship of HIV and lentiviruses of domesticated animals and primates.
- Collaborated with many internationally known AIDS investigators and contributed to early and seminal discoveries with HIV and its role in AIDS.

LITTON BIONETICS, INC. - Operated basic research programs and technical operations of FCRDC from 1973 – 1982.

1975 – 1982 **SCIENTIST I AND HEAD, ELECTRON MICROSCOPY SECTION, BIOLOGICAL CARCINOGENESIS PROGRAM**

Managed Electron Microscopy Section of the Biological Carcinogenesis Program. Collaborated with FCRDC facility and NCI intramural scientists in the discovery and/or genetic analysis of various oncogenes (*ras, raf, fms, fes*, and *rel* oncogenes) and human retroviruses.

- Performed original studies that advanced our understanding of the molecular structure and genetic relationship of the first human cancer-causing retroviruses HTLV-I and II.
- Developed genetic approach to demonstrate the existence of the *ras* proto-oncogene family of oncogenic sequences in transforming retroviruses and their presence, structure, and conservation in evolutionary divergent mammalian species which provided the first rational model for understanding the basis of some inherited and acquired cancers.

1973 – 1975 **RESEARCH ASSISTANT, DEVELOPMENTAL ELECTRON MICROSCOPY SECTION, BIOGLOGICAL CARCINOGENESIS PROGRAM**

- Supported cell structure and function investigations using scanning and transmission electron microscopy.

MATTHEW A. GONDA, PH.D.

EXPERIENCE (cont.)

MELOY LABORATORIES, INC., SPRINGFIELD, VA

A contract research organization providing off-site facilities, operations, and technical support to NCI intramural cancer biology and special virus cancer programs.

1971 – 1973 **RESEARCH ASSISTANT, ELECTRON MICROSCOPY LABORATORY**

- Supported ultrastructural investigations into the viral etiology of animal and human cancers.

ADDITIONAL EXPERIENCE

1984 – 1987 ONCOR - Participated in start-up phase and contributed scientific expertise on oncogenes to identify new business opportunities in molecular diagnostics.

1985 – 1987 BIOX - Co-founder. Wrote two successful proposals for Phase I SBIR contracts to develop immunodiagnostics and recombinant DNA products business for cancer and AIDS.

1984 – 1999 INDEPENDENT SCIENTIFIC CONSULTANT – provided consulting services in retrovirology, molecular biology, gene therapy, AIDS, cancer, patent prosecution, and IND preparation for major pharmaceutical and biotechnology companies, legal firms, government contractors, and universities.

EDUCATION:

Ph.D.	Virology	1982	The Johns Hopkins University
M.S.	Biology	1976	George Mason University
B.S.	Biology	1971	George Mason College, University of Virginia

POSTGRADUATE TRAINING:

- FDA Regulatory Training Course: Investigational New Drug Phase (IND). Drug Information Association, Bethesda, MD, January 23-25, 1995.

EXECUTIVE PROGRAMS:

- Kellogg School of Management, Northwestern University, Evanston, IL – *Biotechnology: Strategies for Value Creation* – March 13-16, 2002

PATENTS:

- Gonda, M.A. Molecular clones of the bovine immunodeficiency-like virus and applications thereof. U.S. Patent #5,380,830. Issued January 10, 1995.

MATTHEW A. GONDA, PH.D.

PATENTS (Continued):

- Ward, J.M., Fox, J.G., Collins, M.J., Jr., Gorelick, P.L., Benveniste, R.E., Tulley, J.G., and Gonda, M.A. Novel Helicobacter species and related methods. U.S. Patent #5,610,060. Issued March 12, 1997.
- Tobin, G.J., Gonda, M.A. Chimeric Gag Pseudovirions. U.S. application filed May 16, 1996.
- Novel compositions and methods for production of recombinant virus. U.S. application filed May 27,1999

BOARD MEMBERSHIPS:

- Pennsylvania Biotechnology Association (1997 – 1999)
- TransMolecular, Inc. (1999 – present)
- Virtual Drug Development, Inc. (2000 – present)
- Birmingham Venture Club (2002 – present)
- Biotechnology Association of Alabama (2002 – present)
- Birmingham Area Technology Leadership Alliance (2002 – present)

ACADEMIC AFFILIATIONS

- Hood College – Adjunct Professor
- The Johns Hopkins University – Lecturer in Medical Virology
- Louisiana State University – Affiliate in Veterinary Sciences

EDITORIAL ASSIGNMENTS

Over 20 journals including: *Science, Nature, Virology, Nature Biotechnology, Gene, Virology, Journal of Virology, Cell, Proceedings of National Academy of Science, Archives of Virology, Cell Biology, Cancer Research, Cancer, Journal of General Virology, etc.*

PROFESSIONAL MEMBERSHIPS:

- American Society for Microbiology
- American Society for Virology
- American Association for the Advancement of Science
- American Society for Gene Therapy
- International Committee for the Taxonomy of Viruses (ICTV), Retrovirus Study Group
- Sigma Xi

BIBLIOGRAPHY:

- Authored or co-authored over 137 original articles and chapters in books and 130 abstracts presented at national and international meetings.

Nossik, N., E.S. Priori, **M.A. Gonda**, L.O. Arthur, J.K. Plowman, and D.L. Fine. Replication and expression of Mason-Pfizer monkey virus in chronically infected primate cell cultures. 27th Annual Meeting of the Tissue Culture Association, Inc., June, 1976.

Arthur, L.O., D.L. Fine, **M.A. Gonda**, and V.H. Zeve. Nature of MMTV expression in vitro subsequent to glucocorticoid treatment. Xth Meeting on Mammary Cancer in Experimental Animals and Man. Kobe, Japan. March, 1976.

Nossik, N.N., F.I. Vershov, D.L. Fine, E.S. Priori, L.O. Arthur, and **M.A. Gonda**. The study of chronic infection induced by type-D oncornaviruses in primate cell cultures. Proceedings of the 4th US-USSR Symposium on Viral Oncology, p.53, 1976.

Gonda, M.A. Electron microscopic studies of normal and tumor cells in vitro. Annual Meeting of the National Capital Area Branch of the TCA. Gaithersburg, MD., 1977.

Gonda, M.A. Electron microscopic studies of normal and tumor cells in vitro. Hoffman-La Roche, Inc., Nutley, NJ, 1977.

Gonda, M.A., H.J. Hager, S. Oroszlan, R.V. Gilden, M. Tannenbaum, and K.C. Hsu. Comparative studies of the localization of two major viral proteins of Rauscher leukemia virus by transmission and scanning electron microscopy using immunoenzyme, immunoferritin, and immunolatex techniques. Third International Congress of Immunology. Sydney, Australia, 1977.

Neubauer, R.H., H. Rabin, R.F. Hopkins, III, M.G. Valerio, and **M.A. Gonda**. Characterization of a spontaneous esophageal squamous cell carcinoma from a Rhesus monkey (Macaca mulatta) and the establishment of an epithelial cell line. In Vitro, 13:174, 1977.

Gonda, M.A., H. Hager, S. Oroszlan, R.V. Gilden, and K.C. Hsu. Localization of gp70 and p30 murine type C virus antigens in thin-section electron microscopy using novel immunolatex spheres and comparison with immunoferritin and immunoperoxidase methods. Presented at the 35th Annual Proceedings of the Electron Microscopy Society of America, 1977.

Benton, C.V., H. Rabin, M.A. Tainsky, S. Oroszlan, L.O. Arthur, **M.A. Gonda**, and R.V. Gilden. Isolation and characterization of an endogenous retrovirus of Rhesus monkeys. ASM, 1979.

Gonda, M.A., R.V. Gilden, and K.C. Hsu. Immunologic techniques for the identification of virion and cell surface antigens by correlative fluorescence, transmission electron, and scanning electron microscopy. Scanning Electron Microscopy Symposium, Sheraton-Park Plaza Hotel, Washington, D.C. April 16-20, 1979.

Rabin, H., R.H. Neubauer, C.V. Benton, **M.A. Gonda**, and A. Schultz. Primate cell culture systems for the study of spontaneous carcinoma of the esophagus and nasal mucosa. Research Conference on Head and Neck Oncology, 1980.

Young, H.A., **M.A. Gonda**, D. DeFeo, R.W. Ellis, K. Nagashima, and E.M. Scolnick. Heteroduplex analysis of cloned rat endogenous replication defective (30s) retrovirus and Harvey murine sarcoma virus. RNA Tumor Virus Meeting, Cold Spring Harbor, NY. May, 1980.

Gonda, M.A. Immunoelectron microscopic studies using monoclonal antibodies to mouse mammary tumor virus antigens as probes of the cell surface with the unlabeled antibody hemocyanin bridge. Scanning Electron Microscopy. Chicago, IL. April 19, 1980.

Gonda, M.A. Isolation, structure, and characterization of cloned endogenous rat src genes. Johns Hopkins University, School of Hygiene and Public Health. February 18, 1981.

Gonda, M.A. Expression of mouse retroviral sequences during embryogenesis. Delta Omega, The Honorary Public Health Society, Alpha Chapter, Johns Hopkins University, Baltimore, MD. April 18, 1981.

Gonda, M.A. Harvey and Kirsten sarcoma virus p21 src genes originate from a family of normal vertebrate genes: A heteroduplex structural study. School of Hygiene and Public Health, Johns Hopkins University. April 9, 1981.

Gonda, M.A. Monoclonal antibodies as immunospecific probes for virus and cell surface antigen localization with the unlabeled antibody hemocyanin bridge: A Review. Scanning Electron Microscopy. Dallas, TX. April 16, 1981.

Rein, A., D.R. Long, A.M. Schultz, **M.A. Gonda**, B.I. Gerwin, S.K. Ruscetti, and R.H. Bassin. Properties of a replication-defective MuLV isolated from cultured AKR leukemia cells. RNA Tumor Virus Meeting, Cold Spring Harbor, NY. May 20-24, 1981.

Bonner, T.I., E. Birkenmeier, **M.A. Gonda**, N. Battula, and G.J. Todaro. The type C retrovirus-related sequences of chimpanzee. RNA Tumor Virus Meeting, Cold Spring Harbor, NY. May 20-24, 1981.

Rapp, U., E. Birkenmeier, and **M.A. Gonda**. Genome analysis of a lung carcinoma-inducing virus. RNA Tumor Virus Meeting, Cold Spring Harbor, NY. May 20-24, 1981.

Rapp, U., E. Birkenmeier, and **M.A. Gonda**. Genome comparison of a leukemogenic with a non-leukemogenic variant of MuLV. RNA Tumor Virus Meeting, Cold Spring Harbor, NY. May 20-24, 1981.

Lowy, D.R., R.W. Ellis, D. DeFeo, E.H. Chang, **M.A. Gonda**, H.A. Young, N. Tsuchida, T.Y. Shih, and E.M. Scolnick. The cellular p21 src genes represent a family of divergent normal genes which have the capacity to transform mouse cells. RNA Tumor Virus Meeting, Cold Spring Harbor, NY. May 20-24, 1981.

Benton, C.V., J.S. Harshman, B.L. Brown, J.W. Bess, **M.A. Gonda**, and R.V. Gilden. Type specific monoclonal antibody to an envelope determinant of the endogenous baboon retrovirus M7. 32nd Annual Meeting of the Tissue Culture Association, Washington, D.C. June 7-11, 1981.

Chang, E.H., R.W. Ellis, **M.A. Gonda**, E.M. Scolnick, and D.R. Lowy. Characterization of a family of divergent cellular p21 sarc genes in humans. Xth International Symposium for Comparative Research on Leukemia and Related Diseases, University of California, Los Angeles, CA. August 31- September 5, 1981.

Lowy, D.R., **M.A. Gonda**, M.E. Furth, R.W. Ellis, E.M. Scolnick, and E.H. Chang. Tumorigenic transformation of mammalian cells induced by elevated levels of normal human onc protein. Reticuloendothelial Society, Washington, D.C. May 21, 1982.

Gonda, M.A., J. Kaminchik, A. Oliff, S. Anderson, J. Menke, and E.M. Scolnick. Heteroduplex analysis of molecular clones of the Friend virus complex: F-MuLV, F-MCF, SFFV-P, and SFFV-FVA. 11th Annual UCLA Symposium on Tumor Viruses and Differentiation, Squaw Valley, CA. March 21-28, 1982.

Lowy, D.R., E. H. Chang, R.W. Ellis, **M.A. Gonda**, T. Shih, D. DeFeo, and E.M. Scolnick. Harvey and Kirsten sarcoma viruses and the p21 gene family. 11th Annual UCLA Symposium on Tumor Viruses and Differentiation, Squaw Valley, CA. March 21-28, 1982.

Gonda, M.A. Genomic relationship of the oncogenic sequences among three independently derived murine sarcoma viruses. Delta Omega, The Honorary Public Health Society, Alpha Chapter, Johns Hopkins University, Baltimore, MD. April 6, 1982.

Chang, E.H., **M.A. Gonda**, R.W. Ellis, M.E. Furth, E.M. Scolnick, and D.W. Lowy. Characterization of four members of the p21 gene family isolated from normal human genomic DNA and demonstration of their oncogenic potential. Workshop on Gene Transfer and Cancer, Frederick Cancer Research Facility, Frederick, MD. April 16-18, 1982.

Gonda, M.A., H.A. Young, S. Rasheed, J.E. Elser, K. Nagashima, C. Talmadge, C.-C. Li, and R.V. Gilden. Molecular cloning, genomic analysis, and biological properties of rat leukemia virus and the v-onc sequences of Rasheed rat sarcoma virus. RNA Tumor Virus Meeting, Cold Spring Harbor, NY. May 24-30, 1982.

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Vedbrat, S., M.B. Gardner, S. Rasheed, S. Ruscetti, H. Lutz, **M.A. Gonda**, and W. Prensky. Feline oncornavirus-associated cell membrane antigen (FOCMA) expression in virus-negative lymphosarcoma (LSA) cells. RNA Tumor Virus Meeting, Cold Spring Harbor, NY. May 24-30, 1982.

Anderson, S.J., **M.A. Gonda**, and C.J. Sherr. Sub-cellular localization of the glycoproteins encoded by the feline retroviral oncogene, v-fms. RNA Tumor Virus Meeting, Cold Spring Harbor, NY. May 25-29, 1983.

Bertolero, F., M.E. Kaighn, **M.A. Gonda**, and U. Saffiotti. Serum-free culture system for clonal growth, cytotoxicity and transformation of mouse epidermal keratinocytes. AACR Annual Meeting, Toronto, Ontario, Canada. May 9-12, 1984.

Shaw, G.M., **M.A. Gonda**, G.H. Flickinger, B.H. Hahn, R.C. Gallo, and F. Wong-Staal. Divergent human T-cell leukemia virus isolates from adult T-cell leukemia, hairy cell leukemia, and AIDS syndrome contain a unique genomic sequence (pX) which is highly conserved. AACR Annual Meeting, Toronto, Ontario, Canada. May 9-12, 1984.

Shaw, G.M., **M.A. Gonda**, G.H. Flickinger, B.H. Hahn, R.C. Gallo, and F. Wong-Staal. Conservation in the viral genomes of evolutionary divergent members of the human T-cell leukemia virus family. RNA Tumor Virus Meeting, Cold Spring Harbor, NY. May 22-27, 1984.

Gonda, M.A. Electron microscopy in the molecular analysis of the HTLV viruses. National Cancer Institute - HTLV Symposium, National Institutes of Health, Bethesda, MD. December 6-7, 1984.

Gonda, M.A. Relationship of HTLV-III to visna virus, a pathogenic lentivirus. Department of Immunology and Infectious Diseases, Johns Hopkins University, School of Hygiene and Public Health, Baltimore, MD. March 13, 1985.

Gonda, M.A. Relationship of HTLV-III to visna virus, a pathogenic lentivirus. Department of Neurology, School of Medicine, Johns Hopkins University, Baltimore, MD. March 15, 1985.

Gonda, M.A., F. Wong-Staal, R.C. Gallo, J.E. Clements, and R.V. Gilden. Sequence homology and morphologic similarity of HTLV-III and visna virus, a pathogenic lentivirus. International Conference on Acquired Immunodeficiency Syndrome (AIDS), Atlanta, GA. April 14-17, 1985.

Hahn, B.H., G.M. Shaw, **M.A. Gonda**, S.K. Arya, M. Popovic, R.C. Gallo, and F. Wong-Staal. Molecular characterization of HTLV-III in AIDS: Cloning and analysis of variant viral genomes. Intl. Conference on Acquired Immunodeficiency Syndrome (AIDS), Atlanta, GA. April 14-17, 1985.

Pyper, J.M., J.E. Clements, and **M.A. Gonda**. Sequence homology between the cloned DNAs of caprine arthritis encephalitis virus (CAEV) and visna virus, two neurotropic retroviruses. RNA Tumor Viruses Meeting, Cold Spring Harbor, NY. April, 1985.

Boyd, A.L., E. Chang, **M.A. Gonda**, and R.V. Gilden. Morphological alterations of cytoskeletal proteins associated with ras p21 protein expression. 36th Annual Meeting of the Tissue Culture Association, New Orleans, LA. June 2-6, 1985.

Gonda, M.A. Structure and phylogenetic relationship of human T-cell lymphotropic viruses. Biotechnology Research Division, Amoco Corporation, Naperville, IL. October 29, 1985.

Gonda, M.A. Comparative virology of AIDS. Continuing Education courses in Comparative Pathology, Armed Forces Institute of Pathology, Holiday Inn, Bethesda, MD. April 21, 1986.

Braun, M.J. and **M.A. Gonda**. The visna virus genome: Rapid evolution and relationships to other retroviruses. Symposium on "Macromolecules, Genes, and Computers," White Mountain Conference Center, New Hampshire. August 12-17, 1986.

Benveniste, R.E., L.J. Eron, K. Nagashima, and **M.A. Gonda**. Characterization of genetic mutants of HIV that are defective in gag gene processing. III International Conference on Acquired Immunodeficiency Syndrome (AIDS), Washington, D.C., June 1-5, 1987.

Gonda, M.A., M.J. Braun, S.G. Carter, T.A. Kost, L.O. Arthur, and M.J. Van Der Maaten. Characterization of a pathogenic lentivirus from cattle which is structurally, immunologically, and genetically related to the human immunodeficiency virus (HIV). III International Conference of Acquired Immunodeficiency Syndrome (AIDS), Washington, D.C., June 1-5, 1987.

Boyd, V.A., T.G. Wood, R.V. Gilden, and **M.A. Gonda**. Evaluation of microinjection of cloned genes as an effective method of genetically engineering mammalian cells to produce human immunodeficiency virus and envelope protein. III International Conference on Acquired Immunodeficiency Syndrome (AIDS), Washington, D.C., June 1-5, 1987.

Carter, S.G., W.G. Robey, L.O. Arthur, P.J. Fischinger, and **M.A. Gonda**. Analysis of HIV protein presentation on infected cell surfaces: Evidence for group, type, and host cell specificity. III International Conference on Acquired Immunodeficiency Syndrome (AIDS), Washington, D.C., June 1-5, 1987.

Gonda, M.A. Characterization and molecular cloning of a bovine lentivirus related to the human immunodeficiency virus. Laboratory of Tumor Cell Biology Annual Meeting, Gaithersburg, MD, Sept. 1-4, 1987.

Gonda, M.A. Characterization and molecular cloning of a bovine lentivirus related to the human immunodeficiency virus. USDA, National Animal Disease Center, Ames, Iowa, Sept. 29, 1987.

Gonda, M.A. Characterization and molecular cloning of a bovine lentivirus related to the human immunodeficiency virus. Biological Response Modifiers Program, DCT, NCI-Frederick Cancer Research Facility, Frederick, MD, Oct. 16, 1987.

Gonda, M.A., M.J. Braun, S.G. Carter, T.A. Kost, A.L. Boyd, J.W. Bess, Jr., L.O. Arthur, and M.J. Van Der Maaten. Characterization and molecular cloning of a bovine lentivirus related to the human immunodeficiency virus. "Colloque Des Cent Gardes", Retroviruses of Human AIDS and Related Animal Diseases, Pasteur Vaccins, Marnes-La-Coquette, Paris, France, October 28-30, 1987.

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Borst, D.E., T.M. Redmond, J. Elser, **M. Gonda**, C.J. Chader, and J.M. Nickerson. IRBP genes and their nucleotide sequences. American Researcher of Vision Organization, Sarasota, FL, May 2-6, 1988.

Carter, S., A. Boyd, M. Braun, T. Kost, M. Van Der Maaten, and **M.A. Gonda**. Properties of infectious virus derived from biologically-active proviral clones of bovine immunodeficiency-like virus (BIV). IV International Conference on AIDS, Stockholm, Sweden, June 12-16, 1988.

Gonda, M.A. Molecular cloning and characterization of two biologically active proviruses of the bovine immunodeficiency-like virus (BIV). Annual Meeting of Laboratory of Tumor Cell Biology, Bethesda, MD, August 22-26, 1988.

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Gonda, M.A. Use of electron microscopy in elucidating the molecular structure of the AIDS virus. Eastern Analytical Symposium, New York City, NY, October 3-7, 1988.

Gonda, M.A. State of the art overview on retrovirology: Perspectives on the past decade and future of retrovirus research. Ruminant Retrovirus Symposium. 10th Annual Western Food Animal Disease Research Conference, Colorado State University, Ft. Collins, CO, March 9-11, 1989.

Gonda, M.A. Molecular Organization and Preliminary Seroprevalence Studies of the Bovine Immunodeficiency-like Virus. Ruminant Retrovirus Symposium. 10th Annual Western Food Animal Disease Research Conference, Colorado State University, Ft. Collins, CO, March 9-11, 1989.

Gonda, M.A. Comparative biology, evolutionary relationship, and molecular genetics of human and animal lentiviruses with emphasis on the bovine immunodeficiency-like virus. Invited keynote lecture for mini-symposium entitled "Of Men and Cattle: Retrovirus-induced Immunosuppression," Department of Veterinary Science, University of Nebraska, Lincoln, Nebraska, April 13, 1989.

Garvey, K.J., M.S. Oberste, and **M.A. Gonda.** Comparison of the nucleotide sequences of two biologically active proviral molecular clones of the bovine immunodeficiency-like virus and evolutionary analysis of the major structural gene products. 8th Annual Meeting of the American Society for Virology, University of Western Ontario, London, Ontario, July 9-13, 1989.

Battles, J.K., M. Hu, J.D. Greenwood, and **M.A. Gonda.** Characterization of putative structural gene products of the bovine immunodeficiency-like virus (BIV). 8th Annual Meeting of the American Society for Virology, University of Western Ontario, London, Ontario, on July 9-13, 1989.

Oberste, M.S., K.J. Garvey, and **M.A. Gonda.** The genome organization and transcriptional pattern of the bovine immunodeficiency-like virus. 8th Annual Meeting of the American Society for Virology, University of Western Ontario, London, Ontario, July 9-13, 1989.

Boyd, A.L., **M. Gonda**, and J. Casey. Characterization of biologically active clones of BLV. 8th Annual Meeting of the American Society for Virology, University of Western Ontario, London, Ontario, July 9-13, 1989.

Benveniste, R., **M. Gonda**, J. Greenwood, U. Csaikl, W. Morton, J. Overbaugh, and G. Heidecker. Characterization of pathogenic biological and molecular clones of SIV. Symposium on Nonhuman Primate Models for AIDS, Beaverton, Oregon, August 1, 1989.

Gonda, M.A. Present status of research on the development of the bovine immunodeficiency-like virus as a model of lentivirus disease. Invited lecture for the 21st Congress of the International Association of Biological Standardization, Progress in Animal Retroviruses, Annecy, France, October 4-6, 1989.

Gonda, M.A. The visna virus genome. Variability and relationship to other lentiviruses. Invited lecture for the VIth International Conference on Comparative and Applied Virology, Banff Springs Hotel, Banff, Alberta, Canada, October 15-21, 1989.

Gonda, M.A. Molecular genetics and comparative biology of the bovine immunodeficiency-like virus (BIV). Invited keynote lecture for the First International TNO Meeting on "Animal Models in AIDS," Maastricht Exhibition and Congress Centre, Maastricht, Netherlands, October 23-26, 1989.

Garvey, K.J., M.S. Oberste, and **M.A. Gonda**. Bovine immunodeficiency-like virus: nucleotide sequence analysis and evolutionary comparison to other retroviruses. Genome Sequencing Conference, Wolf Trap Conference Center, Vienna, VA, October 24-26, 1989.

Gonda, M.A. Development of the bovine immunodeficiency-like virus as a model for lentivirus infection of relevance to HIV. Invited lecture for Annual AAAS Meeting, special symposium on "Non-Primate Lentiviruses: Models for Understanding AIDS," New Orleans, LA, February 15-20, 1990.

Gonda, M.A. Comparative biology of lentiviruses with emphasis on the bovine immunodeficiency-like virus, a novel lentivirus related to HIV. Invited lecturer for the New York State Institute for Basic Research, Staten Island, NY, March 28, 1990.

Battles, J.K., L. Rasmussen, M.Y. Hu, and **M.A. Gonda**. Serological identification and baculovirus expression of structural gene products of the bovine immunodeficiency-like virus (BIV). 1990 UCLA Symposium on Molecular and Cellular Biology, Keystone, CO, March 31-April 6, 1990.

Pifat, D.Y., W.H. Ennis, J.L. Rossio, J.M. Ward, and **M.A. Gonda**. Bovine immunodeficiency-like virus (BIV) infection of rabbits: A small animal model for lentivirus-induced disease. 1990 UCLA Symposium on Molecular and Cellular Biology, Keystone, CO, March 31-April 6, 1990.

Gonda, M.A. Biology of the bovine immunodeficiency-like virus. NIH Interagency Animal Model Committee, NIH, Bethesda, MD, April 19, 1990.

Lackman-Smith, C.S., L.A. Pallansch, and **M.A. Gonda**. Characterization of bovine immunodeficiency-like virus gene expression: Transactivation of the LTR by viral sequences in vitro. 1990 American Society for Virology, Salt Lake City, Utah, July 8-12, 1990.

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Ward, J.M., R. Benveniste, A.O. Williams, P. Nara, **M.A. Gonda**, D.Y. Pifat, and D.C. Kalter. Expression of retroviral antigens in autopsy and biopsy pathology specimens of mice, rabbits, monkeys, and humans. NIH Research Day, Bethesda, MD, September 1990.

Dock, N., S. Oberste, H. Lamberson, S. Kleinman, **M. Gonda**. Assessment of retroviral exposure in blood donors reactive by HIV assays. 1990 Joint Congress, International Society of Blood Transfusion and American Association of Blood Banks, Los Angeles, CA, November 10-15, 1990.

Tobin, G.J., J.L. Rossio, K. Nagashima, and **M.A. Gonda**. Physical and antigenic properties of HIV-1 gag-containing pseudovirions expressed in a recombinant baculovirus-insect cell system. 1991 American Society for Virology Annual Meeting, Fort Collins, CO, July 7-11, 1991.

Battles, J.K., L. Rasmussen, M.Y. Hu, G.J. Tobin, and **M.A. Gonda**. Expression and characterization of gag gene products of the bovine immunodeficiency-like virus. 1991 American Society for Virology Annual Meeting, Fort Collins, CO, July 7-11, 1991.

Pifat, D.Y., J.M. Ward, D.G. Luther, K.J. Garvey, and **M.A. Gonda**. Experimental infection of calves and rabbits with bovine immunodeficiency-like virus (BIV). 1991 American Society for Virology Annual Meeting, Fort Collins, CO, July 7-11, 1991.

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Andrésson, Ó.S., **M.A. Gonda**, P.A. Pálsson, G. Pétursson, and G. Georgsson. The host response to experimental infection with an infectious molecular clone of visna virus. European Meeting of Neuropathology, Berlin, Germany, July 1992.

Battles, J.K., L. Rasmussen, K. Nagashima, J.D. Greenwood, J.W. Casey, and **M.A. Gonda**. Gag-containing virus-like particles of bovine leukemia virus (BLV) expressed in the recombinant baculovirus-insect cell system. 1992 American Society for Virology Annual Meeting, Ithaca, NY, July 11-15, 1992.

Centanni, J.M., L.A. Pallansch, D.Y. Pifat, W.H. Ennis, M.R. Anver, J.L. Rossio, and **M.A. Gonda**. Characterization of transgenic mice expressing bovine immunodeficiency-like viral genes. 1992 American Society for Virology Annual Meeting, Ithaca, NY, July 11-15, 1992.

Lackman-Smith, C.S., L.A. Pallansch, J.A. Mikovits, F.W. Ruscetti, and **M.A. Gonda**. Characterization of the bovine immunodeficiency-like virus long terminal repeat (LTR). 1992 American Society for Virology Annual Meeting, Ithaca, NY, July 11-15, 1992.

Oberste, M.S., J.C. Williamson, J.D. Greenwood, K. Nagashima, L.R. MacIvor, and **M.A. Gonda**. Identification and subcellular localization of the Rev protein in bovine immunodeficiency-like virus-infected cells. 1992 American Society for Virology Annual Meeting, Ithaca, NY, July 11-15, 1992.

Pallansch, L.A., C.S. Lackman-Smith, M.S. Oberste, J.D. Greenwood, and **M.A. Gonda**. Characterization and functional analysis of the bovine immunodeficiency-like *tat* gene. 1992 American Society for Virology Annual Meeting, Ithaca, NY, July 11-15, 1992.

Pifat, D.Y., K.A. Watson, K.B. Noer, A.F. Mentzer, and **M.A. Gonda**. Sequential infection of rabbits with bovine immunodeficiency-like virus (BIV) and bovine leukemia virus (BLV). 1992 American Society for Virology Annual Meeting, Ithaca, NY, July 11-15, 1992.

Tobin, G.J., and **M.A. Gonda**. Inhibition of bovine immunodeficiency-like virus (BIV) in cell culture by anti-HIV-1 compounds. 1992 American Society for Virology Annual Meeting, Ithaca, NY, July 11-15, 1992.

Landsman, D., J. Doniger, **M. Gonda**, and G. Wistow. The product of unr, the conserved gene upstream of N-ras, contains multiple repeats similar to the cold-shock domain (CSD), a putative DNA-binding motif as well as RNP-1, an RNA-binding motif. Gordon Research Conference on Nuclear Proteins, Gene Regulation, and Chromatin Structure, Tilton, NH, July 27-31, 1992.

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Kaneda, K., A.M. Pilaro, T.J. Sayers, T.A. Wiltrout, J.W. Wine, K. Nagashima, **M.A. Gonda**, J.R. Ortaldo, R.H. Wiltrout. Liver-associated large granular lymphocytes (pit cells) and hepatic RNK metastases exhibit an increase in rod-cored vesicles. 1992 International Symposium on Cells of the Hepatic Sinusoid, Belgium, August 23-27, 1992.

Gonda, M.A. Bovine immunodeficiency virus: molecular biology and emerging potential of surrogate hosts in understanding its pathogenesis. The Cleveland Clinic Foundation Seminar Series, Cleveland, OH, December 10, 1992.

Gonda, M.A., L.A. Pallansch, and G.J. Tobin. Bovine immunodeficiency virus animal models for antiviral therapy. 1993 UCLA/UCI AIDS Symposium, Gene Therapy Approaches to Treatment of HIV-1 Infection, Palm Springs, CA, February 4-7, 1993.

Ward, J.M., A.B. Kulkarni, **M.A. Gonda**, P.L. Gorelick, M.J. Collins, Jr., and S. Karlsson. The pathology of early mortality in mice with the transforming growth factor-b1 null mutation. Annual meeting of the American Association for Cancer Research, Orlando, FL, May 19-22, 1993.

Andrésson, Ó.S., J.E. Elser, G.J. Tobin, J.D. Greenwood, **M.A. Gonda**, G. Georgsson, V. Andrésdóttir, E. Benediktsdóttir, H.M. Carlsdóttir, B. Rafnar, P.A. Pálsson, and G. Pétursson. Nucleotide sequence and biological properties of a pathogenic proviral molecular clone of neurovirulent visna virus. Conference on Slow Infections of the Central Nervous System: The Legacy of Dr. Björn Sigurdsson, Reykjavík, Iceland, June 2-5, 1993.

Gonda, M.A. Biologic and molecular characteristics of lentiviruses. Conference on Slow Infections of the Central Nervous System: The Legacy of Dr. Bjorn Sigurdsson, Reykjavik, Iceland, June 2-5, 1993.

Gonda, M.A. Current developments in the study of bovine immunodeficiency virus molecular biology and persistent infections. Comparative Pathobiology of Lentivirus Infections Symposium, Bethesda, MD, June 14-15, 1993.

Pyper, J.M., K. Nagashima, **M. Gonda**, and J.E. Clements. Production of infectious Borna disease virus particles in cell culture. 1993 American Society for Virology Annual Meeting, University of California, Davis, CA, July 10-14, 1993.

Tobin, G.J., R.C. Sowder II, J.K. Battles, D. Fabris, C. Fenselau, L.E. Henderson, and **M.A. Gonda**. Physical characterization of the Gag proteins of bovine immunodeficiency virus (BIV). 1993 American Society for Virology Annual Meeting, University of California, Davis, CA, July 10-14, 1993.

Oberste, M.S., D.G. Luther, K.J. Garvey, W.H. Ennis, K.B. Noer, K.A. Watson, A.F. Mentzer, L.R. MacIvor, D.C. Hutchison, D.Y. Pifat, and **M.A. Gonda**. Experimental infection of calves with bovine immunodeficiency virus and characterization of new virus isolates. 1993 American Society for Virology Annual Meeting, University of California, Davis, CA, July 10-14, 1993.

Gonda, M.A., L.A. Pallansch, M.S. Oberste, J.M. Centanni, J.D. Greenwood, and J.C. Williamson. Bovine immunodeficiency virus (BIV): Molecular biology and pathogenesis of viral gene expression in transgenic mice. 1993 Annual Meeting Sponsored by the Laboratory of Tumor Cell Biology, NCI, Bethesda, MD, August 22-28, 1993.

Gonda, M.A., S.E. Fong, L.A. Pallansch, M.S. Oberste, and G.J. Tobin. Regulation of virus gene expression and pathogenesis of bovine immunodeficiency virus. 2nd International Conference on Gene Regulation/Oncogenesis/AIDS, Loutraki, Greece, September 23-30, 1993.

Gonda, M.A. Bovine immunodeficiency virus: towards an understanding of the mechanisms of disease induction by nonacute pathogenic lentiviruses. J. Mac Goepfert Memorial Lecture, Food Microbiology Research Conference-XIV, Chicago, IL, October 19-22, 1993.

Gonda, M.A., L.A. Pallansch, M.S. Oberste, S.E. Fong, and G.J. Tobin. Molecular biology of bovine immunodeficiency virus gene expression and pathogenesis in transgenic mice. 5th Workshop on the Pathogenesis of Animal Retroviruses, La Rochelle, France, October 28-31, 1993.

Polack, B., I. Schwartz, G. Manet, M. Berthelemy, **M.A. Gonda**, and D. Lévy. Serologic evidence of bovine immunodeficiency-like virus infection in France. 5th Workshop on the Pathogenesis of Animal Retroviruses, La Rochelle, France, October 28-31, 1993.

Ward, J.M., M.R. Anver, D.C. Haines, L. Anderson, R.J. Russell, J.M. Rice, S. Rehm, M.J. Collins, Jr., P.L. Gorelick, C.R. Reeder, **M.A. Gonda**, and J. Donovan. Chronic active hepatitis of unknown origin in mice from a large research facility. 44th Annual Meeting of the American Association for Laboratory Animal Science, Nashville, TN, November 14-18, 1993.

Snider, T.G., III, D.G. Luther, and **M.A. Gonda**. Bovine immunodeficiency virus associated with encephalitis and secondary infections in cattle. American College of Veterinary Pathology Conference, San Antonio, TX, December 5-10, 1993.

Snider, T.G., III, D.G. Luther, B.F. Jenny, and **M.A. Gonda**. Encephalitis and secondary diseases associated with co-infection of bovine immunodeficiency virus and bovine leukemia virus. Conference for Animal Disease Research Workers in the Southern States, Baton Rouge, LA, March 28-30, 1994.

Fong, S.E., L.A. Pallansch, and **M.A. Gonda**. Augmentation of gene expression by the bovine immunodeficiency virus long terminal repeat by insertion of enhancer elements. 1994 American Society for Virology Annual Meeting, University of Wisconsin, Madison, WI, July 9-13, 1994.

Rafnar, B., G.J. Tobin, S. Þorsteinsdóttir, and **M.A. Gonda**. Expression of visna virus recombinant Gag and Env proteins. Scandinavian Society for Immunology XXVth Annual Meeting and Xth Summer School, Reykjavik, Iceland, August 13-17, 1994.

Snider, T.G., III, D.G. Luther, B.F. Jenny, and **M.A. Gonda**. Bovine immunodeficiency virus infection in Holstein dairy cows. 98th Annual Meeting of the U.S. Animal Health Association, Grand Rapids, MI, October 29-November 4, 1994.

Yang, Q-E., G.J. Tobin, and **M.A. Gonda**. Expansion of murine bone marrow pluripotent stem cells *in vitro* by multiple cytokine medium. 36th Annual Meeting of the American Society of Hematology, Nashville, TN, December 2-6, 1994.

Tobin, G.J. and **M.A. Gonda**. Packaging of additional viral epitopes using chimeric HIV Gag pseudovirions. Workshop on Chimeric Virus-Like Particles as Vaccines, Berlin, Germany, May 17-19, 1995.

Snider, T.G., III, D.G. Luther, B. Jenny, U. Blas-Machado, T.X. Lemarchand, and **M.A. Gonda**. Bovine immunodeficiency virus: a lentivirus associated with encephalitis, immune deficiency and secondary infections. 1995 Annual Meeting of the American Association of Bovine Practitioners, San Antonio, TX, September 14-17, 1995.

Snider, T.G., III, D.G. Luther, B.F. Jenny, and **M.A. Gonda**. Bovine immunodeficiency virus associated with encephalitis, mastitis, footrot and other secondary infections in cattle. 1995 Annual Meeting of the American Association of Bovine Practitioners, San Antonio, TX, September 14-17, 1995.

Ward, J.M., M.R. Anver, D.C. Haines, P.L. Gorelick, J.M. Melhorn, J.K. Battles, **M.A. Gonda**, and R. Benveniste. Disease syndromes in mice naturally infected with *Helicobacter hepaticus*. 46th Annual Meeting of the American Association for Laboratory Animal Science, Baltimore, MD, October 15-19, 1995.

Gonda, M.A. Molecular biology and pathogenesis of bovine immunodeficiency virus in animal models. Australian Centre for International Agricultural Research Symposium on Jembrana Disease, Bali, Indonesia, June 10-13, 1996.

Salkowitz, J.R., G. Tobin, X.-Z. Ma, **M. Gonda**, and H.W. Kestler. *nef* is sufficient for induction of disease in transgenic mice. Institute of Human Virology 1996 Annual Meeting, Baltimore, MD, September 7-13, 1996.

MATTHEW A. GONDA, PH.D.
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Gonda, M.A. Non-HIV lentivirus vectors. Williamsburg Conference Gene Therapy Section, Cystic Fibrosis Foundation, Kingsmill Resort, Williamsburg, VA June 1-4, 1997

Gonda, M.A. Current role of industry in retinal gene therapy. 1998 Retinal Gene Therapy Workshop, Foundation Fighting Blindness, Emory University Conference Center, Atlanta, GA, February 21-22, 1998.

Gonda, M.A. Comparison of the 1995 and 1997 strategic alliances with Biogen and ARIAD Pharmaceuticals. Biopartnering Session, Pennsylvania Biotechnology Association Seventh Annual Symposium, Wyndham Franklin Plaza Hotel, Philadelphia, PA, March 17-18, 1998.

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